



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------------|
| 10/524,485 | 02/14/2005 | Mitsuru Shinagawa | 44471/312241 | 8636 |
| 23370 | 7590 | 02/04/2009 | | |
| JOHN S. PRATT, ESQ. KILPATRICK STOCKTON, LLP 1100 PEACHTREE STREET ATLANTA, GA 30309 | | | EXAMINER KASRAIAN, ALLAHYAR | |
| | | | ART UNIT 2617 | PAPER NUMBER |
| | | | MAIL DATE 02/04/2009 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,485

Applicant(s)

SHINAGAWA ET AL.

Examiner

ALLAHYAR KASRAIAN

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Remarks

1. The present Office Action is in response to Applicant's amendment filed on 11/13/2008. **Claims 1-13** are now pending in the present application. **This Action is made FINAL.**

Response to Arguments

2. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.
3. Applicant's arguments regarding the limitation: "an insulating case that incorporates said transceiver main body" as disclosed on claims 1, 5, 12 and 13 have been fully considered but they are not persuasive (see Applicant's arguments/remarks, par. 4 of page 7 and par. 3 of page 9). Examiner respectfully disagrees with Applicant and relies on the broad interpretation of the claim, since Shinagawa discloses on FIGS. 7, 9 or 11 that the insulating film is incorporation with transceiver main body.
4. Applicant's arguments regarding claims 6-9 have been fully considered but they are not persuasive.

On the second paragraph of page 10 of the Applicant's arguments/remarks, Applicant argues, "with respect to Claims 7, 8 and 9, Takeuchi does not disclose a transceiver that includes an insulating member between a battery and transceiver main

body, that is composed of 'a foam member containing air,' 'a plurality of wooden pillars' or 'a cushion member having predetermined gas confined therein' as required by Claims 7, 8 and 9, respectively." Examiner notes that claims 7-9 are rejected based on Official notice, however, Applicant does not provide a reason for not accepting the rejection and instead referring to Takeuchi which disclose an insulating member between power supply circuit (e.g. circuit including batteries), but does not disclose the composition of insulating materials. Examiner further notes if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

On the third paragraph of page 10 of the Applicant's arguments/remarks, Applicant argues, "The cited sections of Takeuchi do not describe the composition of the insulation film. Additionally, none of the figures or corresponding sections of Takeuchi cited by the Examiner disclose a transceiver that includes an insulating member between a battery and transceiver main body." Examiner respectfully disagrees with Applicant for at least two reasons. First, neither of claims discloses, includes nor contains, "the composition of insulating film." In fact, the claims 7-9 define the composition of the insulting member defined on clam 6, not the composition of the insulating film defined on claim 5. Second, Examiner refers to par. 0105 of Takeuchi for the indication of the insulting member, not any figure of Takeuchi as Applicant argues.

On the fourth paragraph of page 10 of the Applicant's arguments/remarks, Applicant argument is similar to the same argument in the pervious paragraphs on page 10. Examiner respectfully disagrees with Applicant for the same reason(s) stated above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinagawa et al. (US Patent Application Pub. # 20030060162)** (hereinafter Shinagawa) in view of **Webster, Jr. Et al. (US Patent # 6064905)** (hereinafter Webster) in view of **Takeuchi et al. (US Patent Application Pub. # 20030151600)** (hereinafter Takeuchi) further in view of **Trinh (US Patent Application Pub. # 20040066605)**.

Consider **claim 1**, Shinagawa discloses a transceiver comprising (FIG. 6-11):

a transmitting and receiving electrode that induces an electric field in an electric field transmission medium, and receives the electric field induced in said electric field transmission medium (any of FIG. 6-11, abstract, par. 0033, 0066-0069, for transmission and reception electrodes 105 and 107, or 105', the electric field transmission medium 100);

a transceiver main body that generates said electric field based on information to be transmitted in said transmitting and receiving electrode, and converts said electric field generated in said transmitting and receiving electrode into reception information, thereby transmitting and receiving information via said electric field transmission medium (any of FIG. 6-11, abstract, par. 0033, 0066-0069, 088-0090, for the transceiver body 3);

an insulating case that incorporates said transceiver main body (any of FIGs. 7, 9 or 11, par. 0067, 0087, 0099 for insulation film 106'),

a battery that drives said transceiver main body (par. 00126);

However, Shinagawa fails to explicitly disclose a first structure that is interposed between said transmitting and receiving electrode and said electric field transmission medium; wherein said transmitting and receiving electrode is provided on a bottom and a side of an external wall surface of said insulating case, so that the transmitting and receiving electrode is adapted to allow said electric field transmission medium to closely approach the bottom and the side; a second structure that is interposed between said transceiver main body and said insulating case;

In the same field of endeavor, Webster discloses a first structure that is interposed between said transmitting and receiving electrode and said electric field transmission medium (FIG. 3C col. 8 lines 60-66 for non-conductive base 38);

wherein said transmitting and receiving electrode is provided on a bottom and a side of an external wall surface of said insulating case, so that the transmitting and receiving electrode is adapted to allow said electric field transmission medium to closely approach the bottom and the side (any of FIGs. 3A-C or 7-9, col. 6 lines 17-53 for the electrodes provided on a side and a bottom of external wall surface);

a second structure that is interposed between said transceiver main body and said insulating case (FIG. 3C, col. 9 lines 1-8 for non-conductive mixture 37);

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate transmitting and receiving electrodes on

a the side and bottom walls of a probe with insulating substances as taught by Webster for purpose of providing more area of the connectivity between the transmitting and receiving electrodes and human body.

However, Shinagawa as modified by Webster fail to disclose a third structure that is interposed between said transceiver main body and said battery, wherein said first, said second, and said third structures are composed an insulator, and are equivalent to a parallel circuit of a resistor and a capacitor.

In the same field of endeavor, Takeuchi discloses a third structure that is interposed between said transceiver main body and said battery (par. 0105).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate insulating a power supply circuit and transceiver as taught by Takeuchi for the power supply circuit (which could include a battery) and transceiver as disclosed by Shinagawa as modified by Webster for purpose of isolating circuits from each others for preventing inductions and crosstalk between circuits.

However, Shinagawa as modified by Webster further modified by Takeuchi fail to disclose said first, said second, and said third structures are composed an insulator, and are equivalent to a parallel circuit of a resistor and a capacitor.

In the same field of endeavor, Trinh disclose the structures are composed an insulator, and are equivalent to a parallel circuit of a resistor and a capacitor (par. 0011).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate the disclose of equivalent circuit of a

dielectric substance as taught by Trinh to the structures disclosed by Shinagawa as modified by Webster further modified by Takeuchi for purpose of representing dielectric substances with electrical elements.

Consider **claim 2 as applied to claim 1 above**, Shinagawa as modified by Webster as modified by Takeuchi further modified by Trinh disclosed the claimed invention except the impedance of said second structure and the impedance of said third structure are larger than the impedance of said first structure.

Nonetheless, the Examiner takes Official Notice of the face that in order to induce energy to human body as compare to preventing the unwanted energy induction and crosstalk between circuit blocks, the impedance of the structure between the transceiver and power supply circuits should be larger than the impedance of the structure between the transmission medium and transceiver circuit.

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to use substances with different impedances as claimed in the transceiver disclosed by Shinagawa as modified by Takeuchi further as modified by Trinh for purpose of using substances for preventing energy induction between circuit blocks as compare to substances for intending induce of energy from one block to another.

Consider **claim 3**, Shinagawa as modified by Webster as modified by Takeuchi further modified by Trinh disclosed the claimed invention **as applied to claim 2 above**, in addition Shinagawa discloses said first structure is an insulating film that covers said

transmitting and receiving electrode against said electric field transmission medium (any of FIGs. 7, 9, or 11, par. 0067, 0087, 0091-0092).

Consider **claim 4**, Shinagawa as modified by Webster as modified by Takeuchi further modified by Trinh disclosed the claimed invention **as applied to claim 2 above**, in addition Shinagawa discloses said second structure and said third structure are insulating members (any of FIGs. 7, 9, or 11, par. 0067, 0087, 0091-0092 and par. 0011 of Trinh).

7. **Claims 5 and 10-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinagawa et al. (US Patent Application Pub. # 20030060162)** (hereinafter Shinagawa) in view of **Webster, Jr. Et al. (US Patent # 6064905)** (hereinafter Webster).

Consider **claim 5**, Shinagawa discloses a transceiver comprising (any of FIGs. 7, 9 or 11, abstract):

a transceiver main body that induces an electric field based on information to be transmitted in an electric field transmission medium from a transmitting electrode, thereby transmitting the information via said electric field transmission medium (any of FIGs. 7, 9 or 11, abstract, par. 0067-0069 for transceiver 3, an electric field transmission medium 100, and a transmitting electrode 105');
a battery that drives said transceiver main body (par. 0126, 0181-0184); and

an insulating case that incorporates said transceiver main body (any of FIGs. 7, 9 or 11, par. 0067, 0087, 0099 for insulation film 106'),

and said transmitting electrodes is covered with an insulating film so as not to be in direct contact with said electric field transmission medium (any of FIGs. 4-11, abstract, par. 0067, 0087, 0099 for insulation films 106, 108 and/or 106').

However, Shinagawa fails to disclose wherein said transmitting electrode is provided on a bottom and a side of a portion of an external wall surface of said insulating case, so that said transmitting electrodes is adapted to allow said electric field transmission medium to closely approach the bottom an the side.

In the same field of endeavor, Webster discloses said transmitting electrode is provided on a bottom and a side of a portion of an external wall surface of said insulating case, so that said transmitting electrodes is adapted to allow said electric field transmission medium to closely approach the bottom an the side (any of FIGs. 3A-C or 7-9, col. 6 lines 17-53 for the electrodes provided on a side and a bottom of external wall surface).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate transmitting and/or receiving electrodes on a the side and bottom walls of a probe as taught by Webster for purpose of providing more area of the connectivity between the transmitting and receiving electrodes and human body.

Consider **claim 10**, Shinagawa as modified by Webster disclose the claimed invention **as applied to claim 5 above**, and in addition Shinagawa discloses a ground electrode that defines a reference voltage which is necessary to drive said transceiver main body, and that is attached to an internal wall surface of said insulating case (par. 0126-0128, it is a well-known safety standard (and inherently taught) that the electric ground connection should be to the body of a device).

Consider **claim 11**, Shinagawa as modified by Webster disclose the claimed invention **as applied to claim 5 above**, and in addition Shinagawa discloses a ground electrode that defines a reference voltage which is necessary to drive said transceiver main body, and that is attached to an external device at the outside of said insulating case (par. 0126-0128, it is a well-known safety standard (and inherently taught) that the electric ground connection of the devices connection to each others should be attached).

Consider **claims 12 and 13**, Shinagawa discloses a transceiver comprising: a transceiver main body that induces an electric field based on information to be transmitted in an electric field transmission medium from a transmitting electrode, and receives information based on the electric field induced in said electric field transmission medium with a receiving electrode, thereby transmitting and receiving the information via said electric field transmission medium (any of FIG. 6, 8 or 10, abstract, par. 0033,

0066-0069, 0088-0090 for transmission and reception electrodes 105 and 107, the transceiver body 3, the electric field transmission medium 100);

a battery that drives said transceiver main body (par. 00126); and

an insulating case that incorporates said transceiver main body (any of FIGs. 7, 9 or 11, par. 0067, 0087, 0099 for insulation film 106'),

and said transmitting (receiving) electrodes is covered with an insulating film so as not to be in direct contact with said electric field transmission medium (any of FIGs. 4-11, abstract, par. 0067, 0087, 0099 for insulation films 106, 108 and/or 106'),

said receiving (or transmitting) electrode is provided on an external wall surface of said first insulating film, and is covered with a second insulating film so as not to be in direct contact with said electric field transmission medium (any of FIG. 6, 8 or 10 par. 0066-0069, 0088-0090 for receiving electrodes 107 with second insulating film 108).

However, Shinagawa fails to disclose wherein said transmitting (receiving) electrode is provided on a bottom and a side of a portion of an external wall surface of said insulating case, so that said transmitting electrodes is adapted to allow said electric field transmission medium to closely approach the bottom an the side.

In the same field of endeavor, Webster discloses said transmitting electrode is provided on a bottom and a side of a portion of an external wall surface of said insulating case, so that said transmitting electrodes is adapted to allow said electric field transmission medium to closely approach the bottom an the side (any of FIGs. 3A-C or 7-9, col. 6 lines 17-53 for the electrodes provided on a side and a bottom of external wall surface).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate transmitting and/or receiving electrodes on the side and bottom walls of a probe as taught by Webster for purpose of providing more area of the connectivity between the transmitting and receiving electrodes and human body.

8. **Claims 6-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinagawa et al. (US Patent Application Pub. # 20030060162)** (hereinafter Shinagawa) in view of **Webster, Jr. Et al. (US Patent # 6064905)** (hereinafter Webster) further in view of **Takeuchi et al. (US Patent Application Pub. # 20030151600)** (hereinafter Takeuchi).

Consider **claim 6 as applied to claim 5 above**, Shinagawa as modified by Webster disclosed the claimed invention except an insulating member between said battery and said transceiver main body.

In the same field of endeavor, Takeuchi discloses an insulating member between said battery and said transceiver main body (par. 0105).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate insulating a power supply circuit and transceiver as taught by Takeuchi for the power supply circuit (which could include a battery) and transceiver as disclosed by Shinagawa as modified by Webster for purpose

of isolating circuits from each others for preventing inductions and crosstalk between circuits.

Consider **claim 7-9**, Shinagawa as modified by Takeuchi discloses an insulating member between said battery and said transceiver main body (par. 0105).

However, Shinagawa as modified by Takeuchi fail to disclose expressly said insulating member is a foam member containing air, a plurality of wooden pillars, or a cushion member having predetermined gas confined therein.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a foam member containing air, a plurality of wooden pillars, or a cushion member having predetermined gas confined therein as an insulating substance.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Shinagawa as modified by Takeuchi's insulating material to obtain the invention as specified in claims 7-9.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Allahyar Kasraian whose telephone number is (571) 270-1772. The Examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Allahyar Kasraian
A.K./ak

/Rafael Pérez-Gutiérrez/
Supervisory Patent Examiner, Art Unit 2617

January 29, 2009